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/*

Experiment No. :    10
Statement      : Blink an LED in accordance with the brightness.
Blinking frequency increases with increase in brightness.

Date of Exp.   :    xx/xx/xxxx

Author         :    Mansi Mandhane (A-24)

*/

const int ledPin = 2;      // Pin number for the LED

const int ldrPin = A0;    // Pin number for the ldr


void setup() {

    pinMode(ledPin, OUTPUT);

    Serial.begin(9600);

}


void loop() {

    int lightLevel = analogRead(ldrPin);


    // Map the light level to a blinking frequency

    int blinkInterval = map(lightLevel, 0, 1023, 100, 1000);


    digitalWrite(ledPin, HIGH); // Turn on the LED

    delay(blinkInterval);

```

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digitalWrite(ledPin, LOW); // Turn off the LED

delay(blinkInterval);

// Print the light level and blinking frequency to the serial
monitor

Serial.print("Light Level: ");

Serial.print(lightLevel);

Serial.print("\tBlinking Frequency: ");

Serial.print(1000 / blinkInterval); // Frequency in Hz

Serial.println(" Hz");

}

```

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Output Serial Monitor x
Message (Enter to send message to 'Arduino Uno' on 'COM4')
Light Level: 0 Blinking Frequency: 10 Hz
Light Level: 0 Blinking Frequency: 10 Hz
Light Level: 0 Blinking Frequency: 10 Hz
Light Level: 18 Blinking Frequency: 8 Hz
Light Level: 964 Blinking Frequency: 1 Hz
Light Level: 738 Blinking Frequency: 1 Hz
Light Level: 16 Blinking Frequency: 8 Hz
Light Level: 1023 Blinking Frequency: 1 Hz
Light Level: 1014 Blinking Frequency: 1 Hz
Light Level: 1023 Blinking Frequency: 1 Hz
Light Level: 721 Blinking Frequency: 1 Hz
Light Level: 1013 Blinking Frequency: 1 Hz
Light Level: 1023 Blinking Frequency: 1 Hz
Light Level: 1023 Blinking Frequency: 1 Hz
Light Level: 783 Blinking Frequency: 1 Hz
Light Level: 0 Blinking Frequency: 10 Hz
Light Level: 0 Blinking Frequency: 10 Hz
Light Level: 0 Blinking Frequency: 10 Hz
Light Level: 0 Blinking Frequency: 10 Hz
Light Level: 0 Blinking Frequency: 10 Hz

```

